

Fig. 1

promoter and exon 1

ACTGCGGAGATGAGGGTCTAGAAGGTGGTGGCGGGGCAT
 GTGGACCGTTGTAAGGGCTCTGGGG**TCCTGGGTGGGCT**
 GGCGAAGTCCTACTCACAGTGACCAACCATGATGATGGT
 CCCGATAGAGGAGGAGAGGGAGGAGGAGGGAAAAGGAAG
 GGTGAGGGGCTCAGAGGGGAGAGCTGGGAGGAGGGGAGA
 CATAGGTGGGGGAAGGGGTAGGAGAAAGGGGAAGGGAGC
 AAGAGGGTGAGGGGCACCAAGGCCCATAGACGTTTGGC
 TCAGCGGCCACGAGG**CTTCATCAGCTCCCGCCCGAAAAC**
 GGAAGCGAGGCCGTGGGGGCAGCGGCAGCATGGCGGGGC
 TTGTCTTGGCGGCCATGGCCCCGCCCCCTGCCCGTCCGA
 TCAGCGCCCCGCCCGTCCCCGCCCCGACCCCGCCCCGG
 GCCCCGCTCAGGCCCG**CCCCTGCCGCCGGAATCCTGAAG**
 CCCAAGGCTGCCCGGGGGCGGTCCGGCGGGCGCCGGCGAT
 GGGGC**ATAAAA**CCACTGGCCACCTGCCGGGCTGCTCC

TGCGTGCGCTGCCGTCCCGGATCCACCGTGCTCTGCGG
CCTGCGTGCCCGGAGTCCCCGCCTGTGTCTGTCTGTGTCG
CCGTCCCCGTCTCCTGCCAGGCGCGGAGCCCTGCGAGCC
GCGGGTGGGCCCCAGGCGCGCAG**ACATGGGCTGCTCCGC**
CAAAGCGCGCTGGGCTGCCGGGGCGCTGGGCGTCGCGGG
GCTACTGTGCGCTGTGCTGGGCGCTGTCATGATCGTGAT
GGTGCCGTGCTCATCAAGCAGCAGGTCCTTAAG

A

GTGGGTGAGGGAGACCCAGGGGGTCCGCGCACGGACCC
 GGGCTGTTGGGCGCTGGGCGCCGGGAGGACCCGCGCGTT
 GCGGTGGGTGGGCGACCGCAGCGGAATCGGCGCCCGGGC
 CTGGCGCCCGAGAACACGAGGGAGGCCAGGCGCTTCGGG
 AGGGGCTGCTGCCCGCCTCCCCACCACCCTCACC

Fig. 2A

exon 2

AGCCTCATGTGCGAAGGGCTTTCCCACCACCTCCTATCC
 CAAGCTCCCGCCGAGGAGCCCCTTCCCTGGCCGGGCTCG
 GGCAGCTGTTCCGGAGCCTTGTGGTGGGGCG**TGGGGCC**
CTCATCACTCTCCTCACAAGCGTACTTGTCCCTTCCC
 CTGCAG

AACGTGCGCATCGACCCCAGTAGCCTGTCCTTCAACATG
TGGAAGGAGATCCCTATCCCCTTCTATCTCTCCGTCTAC
TTCTTTGACGTCATGAACCCCAGCGAGATCCTGAAGGGC
GAGAAGCCGCAGGTGCGGGAGCGCGGGCCCTACGTGTAC
AG

GTGAGGCTGTGTCCACGTGATGGTGGACGGGCCGGCTGA
 CGCTGGGCATGGGACGGGTCTCAN**AGTGGACGGGATG**
GGGAGGCTGCTGACTGACCCCCAAACATTGTTCCGGAA
 GCACGCAACTCATAGTCGGGGTAAGTGCTACTCCCAAAA
 AAGTTTGCGT

exon 3

CATGTCCTGCAGTGGGCAGGCAGCGGGAGGGACAGACTT
 GGCGAAGGGGCCGAGCTCAGCTTTGGCTGTGGGGCCGGA
 GGTGTGCACAGACGTCCAGGGCCCCTGGTTCCCAGGCAG
GCATTGCAGGCGAGTAGAAGGGAAACGTCCCATGCAG
 CGGGGCGGGGCGTCTGACCCACTGGCTTCCCCCACAG

GGAGTTCAGGCACAAAAGCAACATCACCTTCAACAACAA
CGACACCGTGTCCTTCCTCGAGTACCGCACCTTCCAGTT
CCAGCCCTCCAAGTCCCACGGCTCGGAGAGCGACTACAT
CGTCATGCCCAACATCCTGGTCTTG

A

GTGAGGCTGCCCTGTGGCCACGCCGCCTCGCACCCCTGA
 CCTCGTCCCC**TGTCTCTCCTCCCGCCTG**CCCCCTTGTG
 CAGAGAGCAGTCCCTGAGGTGGTCGGAGCGTGGGGACTC
 ACGCCTGGTGGGTGGCTTTCGGCCCTGTGCTGTCTCCAC
 CACCCCA

Fig. 2B

exon 4

GGTGGTTCTGGTGTCCCAGATGCCCCACGTGGCCACTCC
 AGGGGCCTCCTGCACCCCAGCATTTCCTTCAT**GGGCT**
CTTTGCTGTGAGGCCAGCTGGGGCCAAGGGAGGATG
 GGCCAGCCACGTCCAGCCTCTGACACTAGTGTCCCTTCG
 CCTTGCAG

GGTGCGGCGGTGATGATGGAGAATAAGCCCATGACCCTG
AAGCTCATCATGACCTTGGCATTCACCACCCTCGGCGAA
CGTGCTTCATGAACCGCACTGTGGGTGAGATCATGTGG
GGCTACAAGGACCCCTTGTGAATCTCATCAACAAGTACT
TTCCAGGCATGTTCCCTTCAAGGACAAGTTCGGATTAT
TTGCTGAG

GTACGTGTGGCCTGGTGAGAAGCCAAAGATTGAGGCCTG
 TGTCTGT**TTCCCCTCACACAGCCTGG**ACACTGGTC
 ACCAGCTTGCTTTGTAGCTGGCTGGGGATCTAGTGGCTG
 TGGGTTGTAAGTGACTGAGAACCTGACTCAAACCGGCTT
 GAGTGAAA

exon 5

CCTCTCGGTCCCCAGACACTGGGCATTTGGCAGTGAACC
 AGATGCTGGGGGCCCTGTCCTTCTGGTGGAGGGGGAGGA
 GGGCTCAG**CCCAGAATGTT**CAGACCAGGCCGGCTCAA
 TGGCAGGCCTAAGCCTTACGATGCTGTTCCCTGCTGTGT
 CTGTAG

CTCAACAACCTCCGACTCTGGGCTCTTCACGGTGTTACG
GGGGTCCAGAACATCAGCAGGATCCACCTCGTGGACAAG
TGGAACGGGCTGAGCAAG

GTGAGGGGCGAGAGGCGAGGGCCCCCTGTCGCCAGGGAGA
 GGGGAGGGTGGGCC**GGCC**ATGGCTGCTCGGGAGTGGCA
 GGGACCAGAGAGCTCCTTCTT**CCTTTGTCGTGAAGAG**
GGTGCTGGGAGGATGACACTCTTGAAGTTGGAGGAGGG
 ATTTTA

T

Fig. 2C

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exon 6

TCTCTGTGTGTCTACATAGCCTGCCCTCTTCCCACCGTG
 CCAGTATTGGGAATTGAGTGGCCGTGCGTGCACCAGGGT
 GAGTTAGGTGTGCAG**CACCTGAGAGGGCTTATTAAGG**
 GGCCTTGGCCCTACTGAGGGGTCTAGTCTGGATGCTTCC
 CCCCAG

GTTGACTTCTGGCATTCCGATCAGTGCAACATGATCAAT
GGAACCTCTGGGCAAATGTGGCCGCCCTTCATGACTCCT
GAGTCCTCGCTGGAGTTCTACAGCCCGGAGGCCTGCCG

GTAATCACTGGGACTCGGGGCCTCCTGGGTTTCCTGGGT
 AGCTCATGGCCAAATTCTGTGGTGTGGCTGT**GCACTT**
GGAAAGCATTTTGACTCATCGTGGATTTGACTCAGTAG
 CCCTTGGCACCAGCTTGAATTCTCTTTGGTCACACCACC
 AAAAGC

exon 7

GGAGGTCGCTGCAGCTCCGCGGGTGAGAGATGGGGGCGG
 TTTGGACCCGGGAGGTGGTAGCGCCCGTGGGGAGAAGTG
 GCTGGATCTGGGCAGCCTTTGGCAGGGCCTGGCTCT**GGC**
CGCCGGGTCTGGGTGTCCCCTCTCATCCTGTCTGTCC
 CCTGCAG

ATCCATGAAGCTAATGTACAAGGAGTCAGGGGTGTTTGA
AGGCATCCCCACCTATCGCTTCGTGGCTCCCCAAACCCCT
GTTTGCCAACGGGTCCATCTACCCACCCAACGAAGGCTT
CTGCCCCGTGCCTGGAGTCTGGAATTCAGAACGTCAGCAC
CTGCAGGTTCA

GTACGTGCCGTCCCCTGTTCTGGGATNGCCGGAGGGTGT
 TAGGTNTNGGGCACCTNANGGTTTATCTGCCCAATGCTG
TCTGCTTAATCTCTGGCCTCTGTA**CTCTTGATAACC**
 CATTAAGCCAAAAATATGATGCCTCTGGGACGATATCTG

Fig. 2D

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exon 8

TGGGGCT**TTTTTACAGAATGGAGGA**AGGGATCCTCTCT
 GTCGGGTATTATGGTCATCGCCACGGGGGTGCCGTGCAG
 ACCACAGCTCTGTGCAGACTTCCGGAGTGGCAGGACGTG
 CCAATATACTGTCGTTGTATGATGTCCCCTCCCTGCCCT
 TGTGTAG

GTGCCCCCTTGTTTCTCTCCCATCCTCACTTCCTCAACG
CCGACCCGGTTCTGGCAGAAGCGGTGACTGGCCTGCACC
CTAACCAGGAGGCACACTCCTTGTTCTGGACATCCACC
CG

T

GTGAGCCCCTGCCATCCTCTGTGGGGGGTGGGTGATTCC
 TGGTTGGAGCACACCTGGCTGCCTCCTCTCTCCCCAG
 GCAGAGAGCTGCTGTGGGCTGGGGTGGTGGGAAGCCTGG
 CTTCTAGAATCTCGAGCCACCAAAGTTCCTTACT

exon 9

CCCCAGCCTGTGGCTTGTTTTAGGTAAGATACAAGCAAG
 CTCCACTGGGCAGTTAGCTGGGACGCCACCCTCTTGAC
 TGGGACCAGGGAAAAGAAG**GGTTGACTGTGTCCCTGGA**
GCTTGGGGGTGGCCAGTCTCCTCACTGTGTTTGTGCCC
 CAG

GTCACGGGAATCCCCATGAACTGCTCTGTGAAACTGCAG
CTGAGCCTCTACATGAAATCTGTCGCAGGCATTGG

GTGAGTGGGGACTGGGAACCTGGGGCTGCATTGCTCATTG
 AGAGATTANGT**GCTCAGTGCTCCAGTGTTCCC**AGAC
 TCCCCTGACATACCCAGGAAACAGGGCATGGGGAAGGG
 AGAGGGTCCTATTGGGGGTGGAATCCAGTCCCTGCTGAT
 CTTCTC

Fig. 2E

0979452-100101

exon 10

ATGGCTCCTAAAGTGTTTCAGCTCATTTGTTTATATTTGG
TGGTGAGGGTTTAGTGTGTGCAAAATTATACTAAACC
 TGTTTAGATGTTGTATTCAAGCAGAATTAGATCAAGTTT
 GGGTGTAAGACTTTGTTCCAACACCTATGTCTTGCTTAT
 TTCCAG

ACAAACTGGGAAGATTGAGCCTGTGGTCCTGCCGCTGCT
CTGGTTTGCAGAG

GTAAGGGTGCGTTGGGCACAGCGTCGGGGGCTTTTGTTA
 ATAGCCAATGTGGGCATTT**GAGGCAGGAGGCGGGGGG**
AGCACCTTGTAGAAAGGGAGAGGGCTGAGCCAGGGTAAC
 CGGACTGTTACATGGACCAGCGTATCATACACTTCACCC
 TGTC

exon 11

CCTGGAGGGGAGGAGGTCCCTGGCAGGCTCCAACACATGC
 TTTAGCCGGGAAGCTTGAGGTGGGGAAAAGCTGAGGCGG
 GCACAGAGG**AAGGTGTTGGGTGGCATCTG**CGCTGTAG
 CCCGCAGC**CTG**CGGCCCCAGCTCATGTGTTTGTCAATTCT **G**
 GTCTCCTCAG

AGCGGGGCCATGGAGGGGGAGACTCTTCACACATTCTAC
ACTCAGCTGGTGTTGATGCCCAAGGTGATGCACTATGCC
CAGTACGTCCTCCTGGCGCTGGGCTGCGTCCTGCTGCTG
GTCCCTGTCATCTGCCAAATCCGGAGCCAA

GTAGGTGCTGGCCAGAGGGCAGCCCGGGCTGACAGCCAT
 TCGCTTGCTGCTGGGGGAAAGGGGCCTCAGATCGGACC
 CTCT**GGCCAACC****GCAGCCTGGAGCCC**ACCTCCAGCAG
 CAGTCCTGCGTCTCTGCCGGAGTGGGAGCGGTCACTGCT
 GGGGG

Fig. 2F

exon 12

CCCCACATCTCAGCCACCTGCAATCGTTGAGGGTTGTTG
GACTCTAAACTTATGTGCCTTTCCTGTTTCCTCTTTGCC
TTTTGCAAAT**TTGAAGAACCGTGTA**AAACCATTTTTAT
GTGGCTTCAACGTCAACTATAAATTAGCTTGGTTATCTT
CTAG

GAGAAATGCTATTTATTTTGGAGTAGTAGTAAAAAGGGC
TCAAAGGATAAGGAGGCCATTCAGGCCTATTCTGAATCC
CTGATGACATCAGCTCCCAAGGGCTCTGTGCTGCAGGAA
GCAAAACTGTAG

GTGGGTACCAGGTAATGCCGTGCGCCTCCCCGCCCCCTC
CCATATCAAGTAGAATGCTGGCGGCTTAAACATTTGGG
GTCCTGCT**CATTCCTTCAGCCTCA**ACTTCACCTGGAG
TGTCTACAGACTGAAGATGCATATTTGTGTATTTTGCTT
TTGGAGAAA

Fig. 2G

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T0100T*25162260

ACCGTGCTCTGGGCTGCGTCCCGGAGTCCCGCCCTGTGTCGTCTGTGTCGCGTCCCGTCTCTCTGCCAGGCGG 79
 GAGCCCTGCCAGCCGCGGTGGCCCGCAGGCGGCAGAC ATG ^MG G C S A K A R W A 10
 148
 A G A L G V A G L L C A V L G A V M I V 30
 208
 GCC GGG GCG CTG GGC GTC GOG GGG CTA CTG TGC GCT GTG CTG GGC GCT GTC ATG ATC GTG
 M V P S L I K Q Q V L K N V R I D P S S 50
 268
 ATG GTG COG TCG CTC ATC AAG CAG CAG GTC CTT AAG AAC GTG CCG ATC GAC CCC AGT AGC
 L S F N M W K E I P I P F Y L S V Y F F 70
 328
 CTG TCC TTC AAC ATG TGG AAG GAG ATC CCT ATC CCC TTC TAT CTC TCC GTC TAC TTC TTT
 D V M N P S E I L K G E K P Q V R E R G 90
 388
 GAC GTC ATG AAC CCC AGC GAG ATC CTG AAG GGC GAG AAG CCG CAG GTG CGG GAG CCC GGG
 P Y V Y R E F R M K S N I T F N N N D T 110
 448
 CCC TAC GTG TAC AGG GAG TTC AGG CAC AAA AGC AAC ATC ACC TTC AAC AAC AAC GAC ACC
 V S F L E Y R T F Q F Q P S K S H G S E 130
 508
 GTG TCC TTC CTC GAG TAC CGC ACC TTC CAG TTC CAG CCC TCC AAG TCC CAC GGC TCG GAG
 S D Y I V M P N I L V L G A A V M M E N 150
 568
 AGC GAC TAC ATC ^GTC ATG CCC AAC ATC CTG GTC TTG GGT GCG GCG GTG ATG ATG GAG AAT
 K P M T L K L I M T L A A F T T L G E R A 170
 628
 AAG CCC ATG ACC CTG AAG CTC ATC ATG ACC TTG GCA TTC ACC ACC CTC GGC GAA CGT GCC

exon 1 → exon 2
 exon 3
 exon 4

Fig. 3A-1

F M N R T V G E I M W G Y K D P L V N L 190
 TTC ATG AAC CGC ACT GTG GGT GAG ATC ATG TGG GGC TAC AAG GAC CCC CTT GTG AAT CTC 688
 I N K Y F P G M F P F K D K F G L F A E 210
 ATC AAC AAG TAC TTT CCA GGC ATG TTT CCC TTC AAG GAC AAG TTC GGA TTA TTT GCT GAG 748
 L N N S D S G L F T V F T G V Q N I S R 230
 CTC AAC AAC TCC GAC TCT GGG CTC TTC AC GGT TTC AC GGG GTC CAG AAC ATC AGC AGG 808
 I H L V D K W N G L S K V D F W H S D Q 250
 ATC CAC CTC GTG GAC AAG TGG AAC GGG CTG AGC AAG GTT GAC TTC TGG CAT TCC GAT CAG 868
 C N M I N G T S G Q M W P P F M T P E S 270
 TGC AAC ATG ATC AAT GGA ACT TCT GGG CAA ATG TGG CCG CCC TTC ATG ACT CCT GAG TCC 928
 S L E F Y S P E A C R S M K L M Y K E S 290
 TCG CTG GAG TTC TAC AGC CCG GAG GCC TGC CGA TCC ATG AAG CTA ATG TAC AAG GAG TCA 988
 G V F E G I P T Y R F V A P K T L F A N 310
 GGG GTG TTT GAA GGC ATC CCC ACC TAT CGC TTC GTG GCT CCC AAA ACC CTG TTT GOC AAC 1048
 G S I Y P P N E G F C P C L E S G I Q N 330
 GGG TCC ATC TAC CCA CCC AAC GAA GGC TTC TGC CCG TGC CTG GAG TCT GGA ATT CAG AAC 1108
 V S T C R F S A P L F L S H P H F L N A 350
 GTC AGC ACC TGC AGG TTC AGT GCC CCC TTG TTT CTC TCC CAT CCT CAC TTC CTC AAC GCC 1168
 D P V L A E A V T G L H P N Q E A H S L 370
 GAC CCG GTT CTG GCA GAA GOG GTG ACT OOC CTG CAC OCT AAC CAG GAG GCA CAC TCC TTG 12281

Fig. 3A-2

F L D I H P V T G I P M N C S V K L Q L 390
 TTC CTG GAC ATC CAC CCG GTC ACG GGA ATC CCC ATG AAC TGC TCT GTG AAA CTG CAG CTG 1288
 S L Y M K A S V A G I G Q T G K I E P V V 410
 AGC CTC TAC ATG AAA TCT GTC GCA GGC ATT GGA CAA ACT GGG AAG ATT GAG CCT GTG GTC 1348
 L P L L W P A E S G A M E G E T L M T F 430
 CTG CCG CTG CTC TGG TTT GCA GAG AGC GGG GCC ATG GAG GGG GAG ACT CTT CAC ACA TTC 1408
 Y T Q L V L M P K V M H Y A Q Y V L L A 450
 TAC ACT CAG CTG GTG TTG ATG CCC AAG GTG ATG CAC TAT GCC CAG TAC TGC CTC CTG GCG 1468
 L G C V L L L V P P V I C Q I R S Q E K C 470
 CTG GGC TGC CTG CTG CTG CTC CCT GTC ATC TGC CAA ATC CGG AGC CAA GAG AAA TGC 1528
 Y L F W S S K K K G S X D K E A I Q A Y 490
 TAT TTA TTT TGG AGT AGT AAA AAG GGC TCA AAG GAT AAG GAG GCC ATT CAG GCC TAT 1588
 S E S L M T S A P K G S V L Q E A K L * 510
 TCT GAA TCC CTG ATG ACA TCA GCT CCC AAG GGC TCT GTG CTG CAG GAA GCA AAA CTG TAG 1648
 GCTCCTGAGACACCGTGAGCCAGCCAGGCGCTGGCCCTGAGCCGCCCCCAGCCCTACACCCGCTTCTCC 1727
 CGGACTCTCCAGCAGACAGCCCCCAGCCCCCAGCCCTGAGCCTCCAGCTGCCATGTCCCTGTGCACACCTGCACA 1806
 CACGCCCTGGCACACATACACATCGGTGAGGCTTGTGCAGACACTCAGGGATGGAGCTGCTGCTGAAGGACTTGT 1885

Fig. 3B-1

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AGGAGAGGCTCGTCAACAACCACTGTTCTGGAACTTCTCTCCACGTGGCCACAGGCCCTGACCACAGGGGCTGTGGG	1964
TCCTGGCTCCCTTCTCTGGGTGAGCCTGGCCCTGTCCCGTTAGCCGTTGGGCCACAGGCTTCTCCCTCCAAACGTGAA	2043
ACACTGCAGTCCCGGTGTGGTGGCTCCCATGCAGGACGGGCCAGGCTGGGAGTGCCGCCCTTCTGTGCCAAATTCAGT	2122
GGGGACTCAGTGCCCAAGCCCTGGCCACGAGCTTTGGCCTTGGTCTACCTGCCAGGCCAGGCAAGCGCCTTTACACAG	2201
GCCTCGGAAACAATGGAGTGAGCAACAAGATGCCCTGTGACGTGCCCGAGGGTCTCCGCCCAACCCGGCCGGACTTTG	2280
ATCCCCCGAAGTCTTCACAGGCACTCCATCGGGTTGTCTGGCGCCCTTTCTCCAGCCCTAAACTGACATCATCCTAT	2359
GGACTGAGCCGGCCACTYTYTGCCCGAAGTGCCCGCAGGCTGTGCCCCCGAGCTGCCCCACCCCTCACAGGTCCT	2438
CAGATTATAGGTGCCCAGGCTGAGGTGAAGAGCCCTGGGGCCCTGCCCTTCCGGCCGCTCCTGGACCCCTGGGGCAAACC	2517
TGTGACCCCTTTCTACTGGAAATAGAAATGAGTTTATCATCTTTGAAAAATAATTCACTCTTGAAGTAATAACGTTTA	2596
AAAAAATGGGAAAAAATAAAAAAATAAAAAA	2630

Fig. 3B-2

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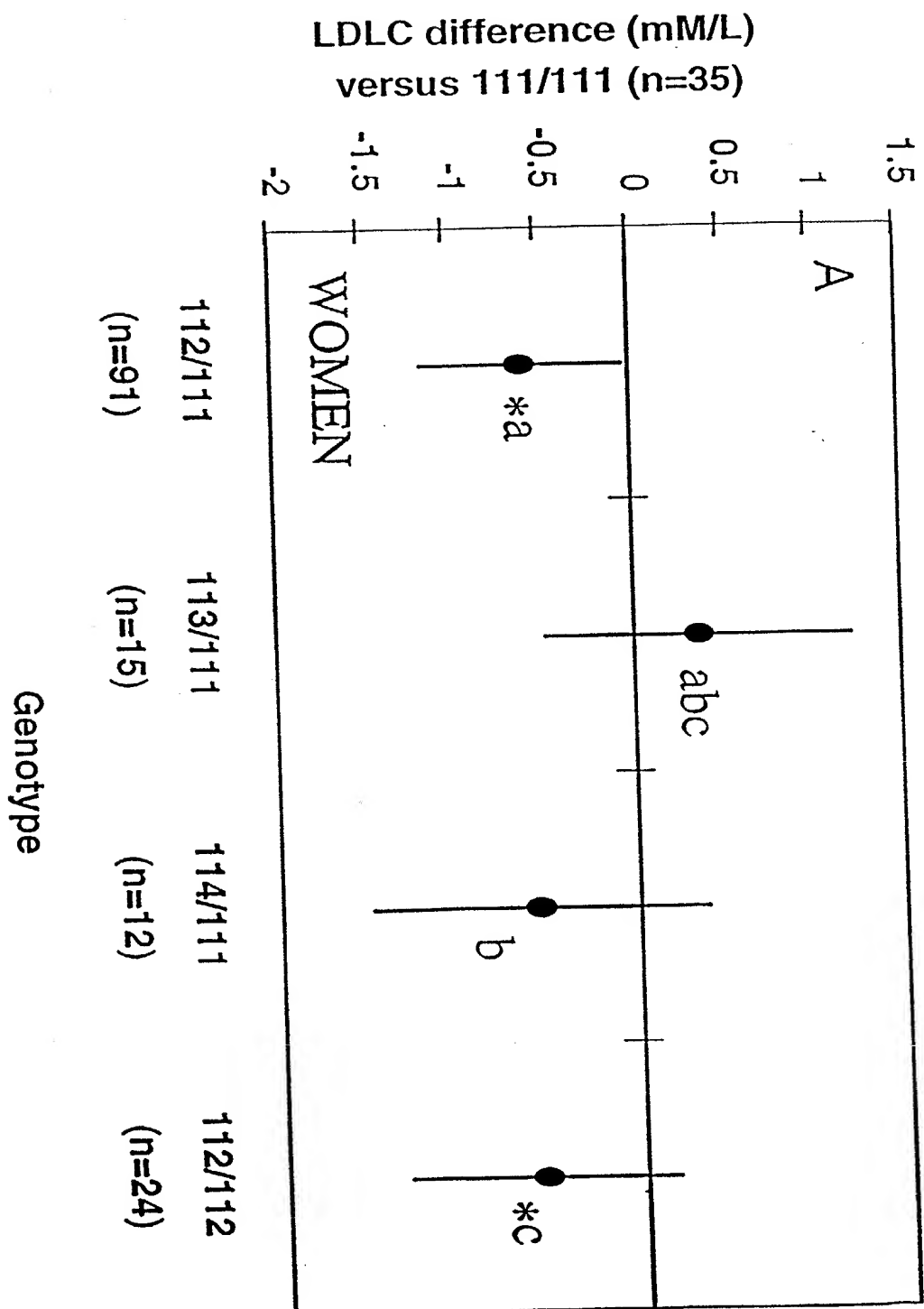


Fig. 4

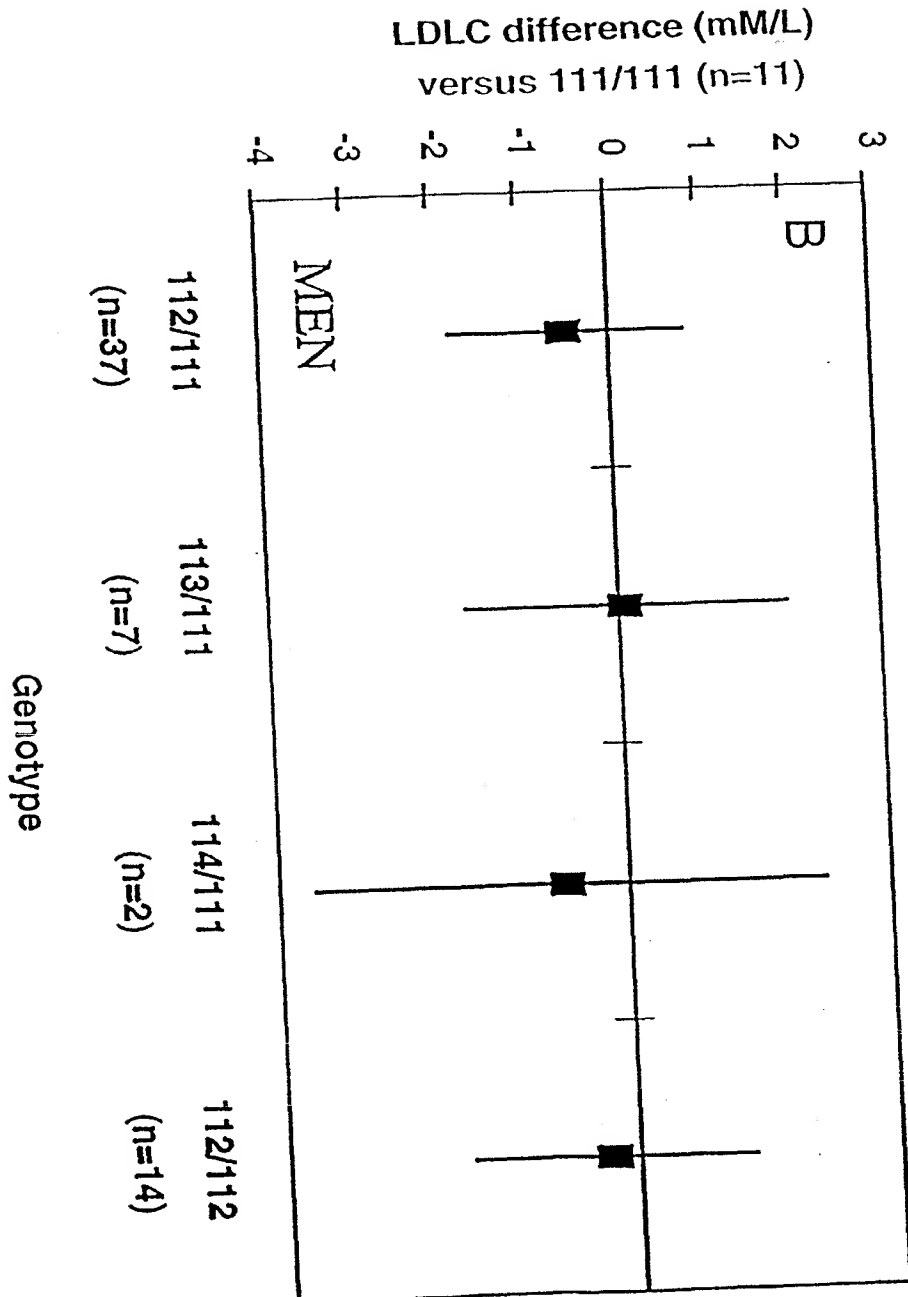


Fig. 5

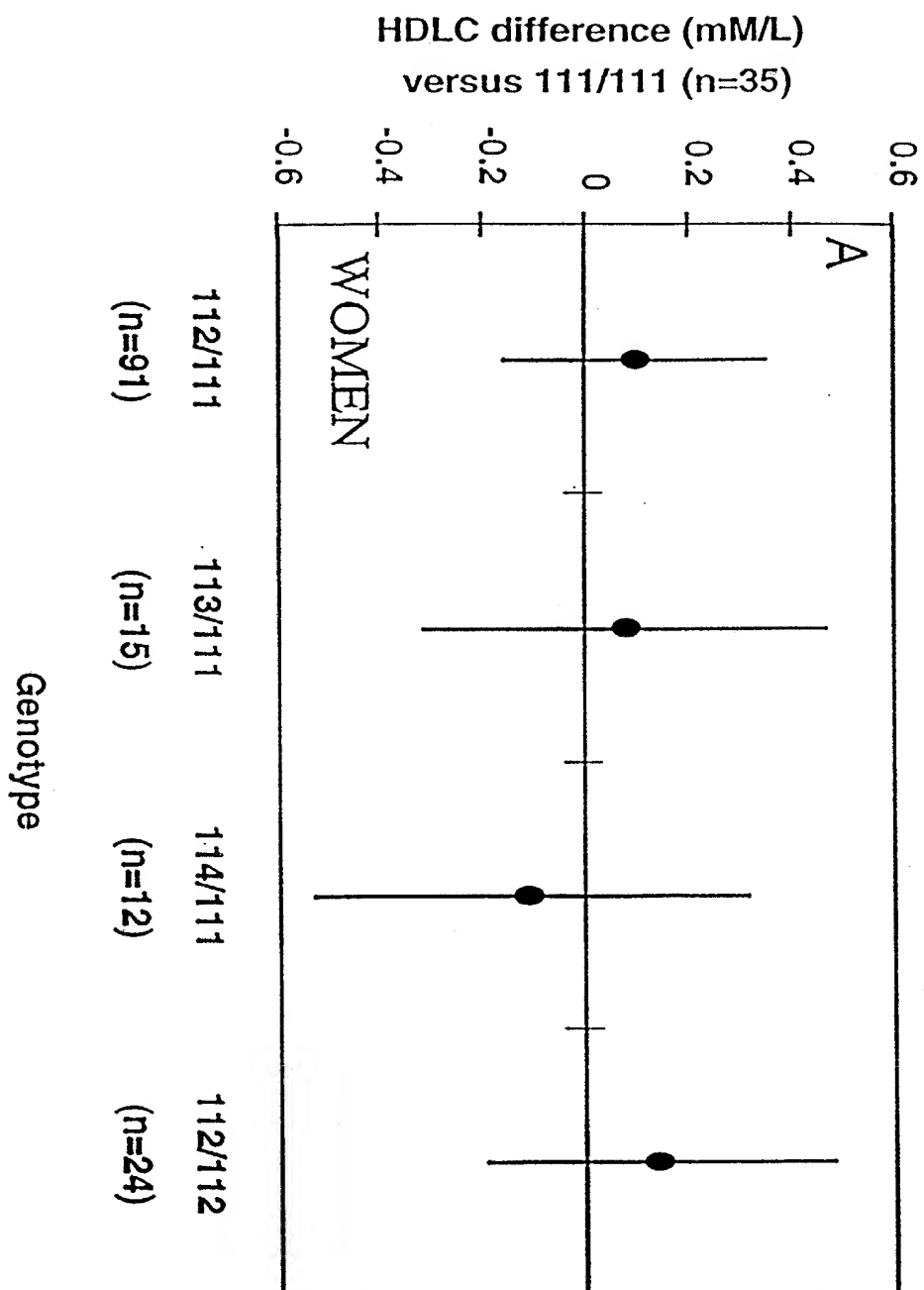


Fig. 6

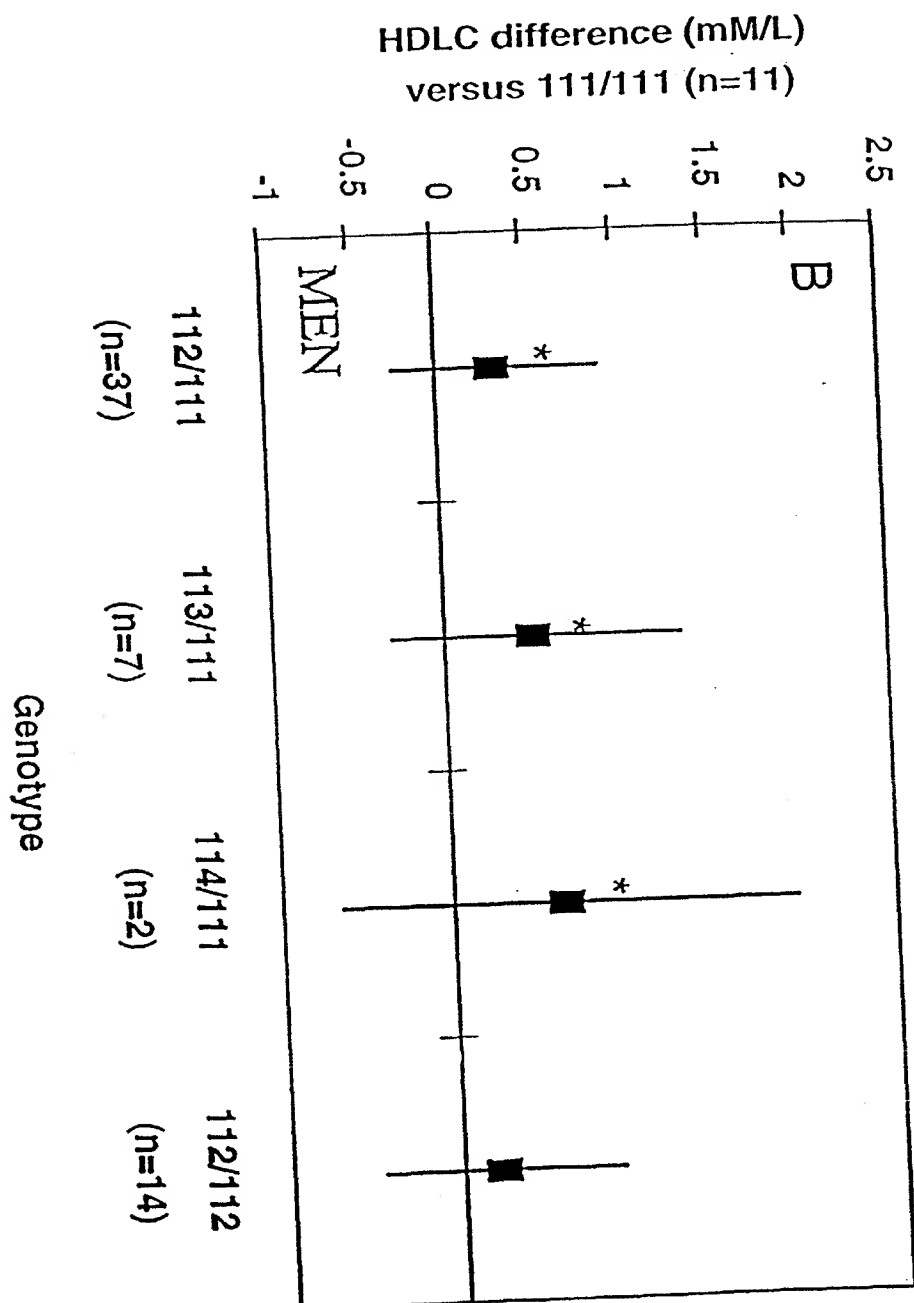


Fig. 7

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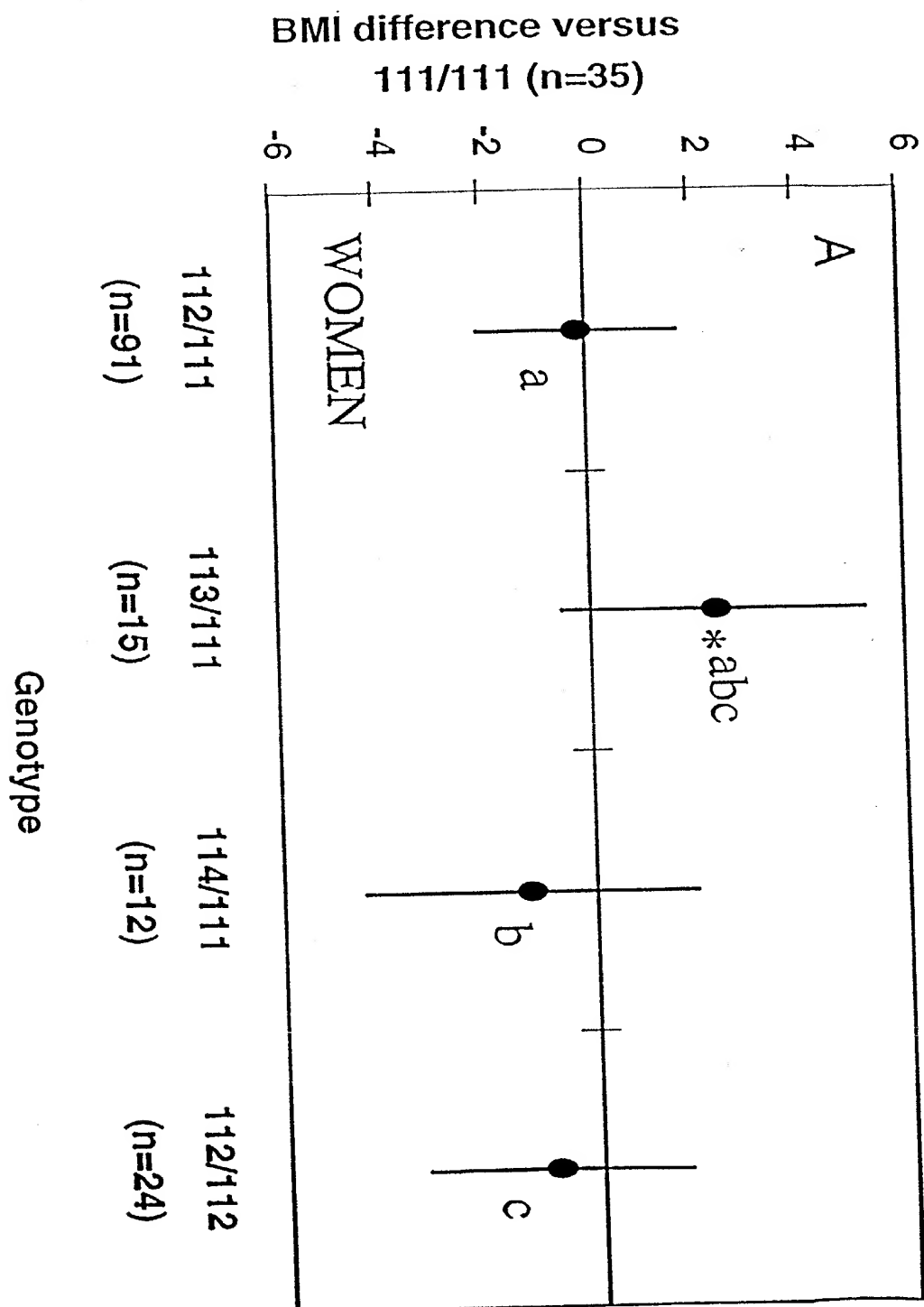


Fig. 8

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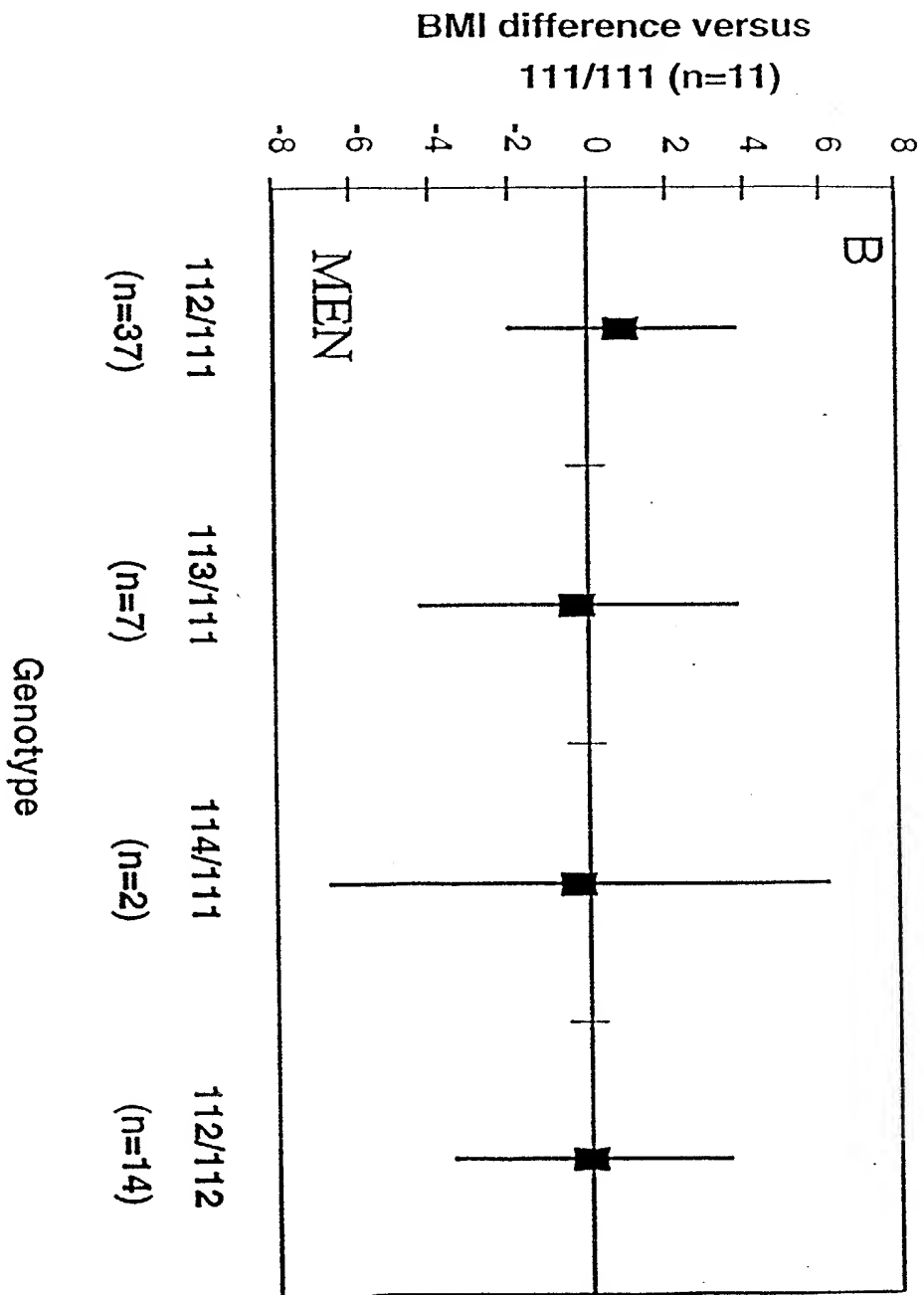


Fig. 9